What Is Claimed Is:

Claim 1. An aqueous gel medium for facilitating the electrophoretic separation of analytes present in a sample, said medium comprising:

(A) a non-crosslinked hydrophilic polymer;

(B) tris(hydroxymethyl)aminomethane – borate buffer;

(C) sodium dodecyl sulfate; and

(D) an organic additive;

wherein said tris(hydroxymethyl)aminomethane – borate buffer has a pH above 8.0 and below 8.3, and wherein said aqueous gel medium facilitates the electrophoretic separation of said analytes by comprising a molecular sieve.

Claim 2. The aqueous gel medium of claim 1, wherein said gel medium additionally contains one or more reagent(s) that function to help keep protein analytes in a reduced form.

Claim 3. The aqueous gel medium of claim 2, wherein said one or more reagent(s) include a reducing reagent.

Claim 4. The aqueous gel medium of claim 3, wherein said reducing reagent is selected from the group consisting of 2-mercaptoethanol, dithiothreitol (DTT), dithioerythreitol (DTE), and tris(2-carboxyethyl)phosphine.

Claim 5 The aqueous gel medium of claim 4, wherein said reducing reagent is dithiothreitol (DTT).

Claim 6. The aqueous gel medium of claim 2, wherein said one or more reagent(s) include a metal ion chelator.

Claim 7. The aqueous gel medium of claim 6, wherein said reducing reagent is ethylenediaminetetraacetic acid (EDTA).

Claim 8. The aqueous gel medium of claim 1, wherein said non-crosslinked hydrophilic polymer is selected from the group consisting of: dextran, polyacrylamide, cellulose derivatives and polyethylene oxide.

Claim 9. The aqueous gel medium of claim 8, wherein said non-crosslinked hydrophilic polymer is dextran.

Claim 10. The aqueous gel medium of claim 9, wherein said dextran has a molecular weight of 2,000 kilodaltons and possesses a non-cross-linked structure composed of approximately 95% alpha-D-(1-6) linkages.

Claim 11. The aqueous gel medium of claim 1, wherein said organic additive is an alcohol.

Claim 12. The aqueous gel medium of claim 11, wherein said alcohol is present at a concentration of from about 0.1% to about 30% (V/V).

Claim 13. The aqueous gel medium of claim 12, wherein said alcohol is selected from the group consisting of: methanol, ethanol, ethylene glycol and glycerol.

Claim 14. The aqueous gel medium of claim 13, wherein said alcohol is glycerol.

Claim 15. The aqueous gel medium of claim 14, wherein said glycerol is present at a concentration of from about 0.1% to about 30% (V/V).

Claim 16. The aqueous gel medium of claim 1, wherein said Tris-borate buffer is present at a concentration of from about 0.1M to about 1.0M.

Claim 17. The aqueous gel medium of claim 1, wherein said aqueous gel medium has a pH of 8.1 ± 0.1.

Claim 18. The aqueous gel medium of claim 1, wherein said analytes include analytes selected from the group consisting of: proteins, polypeptides, peptides and nucleic acid molecules.

Claim 19. A capillary electrophoresis system comprising a capillary tube containing an aqueous gel medium, said medium comprising:

(A) a non-crosslinked hydrophilic polymer;

(B) tris(hydroxymethyl)aminomethane – borate buffer;

(C) sodium dodecyl sulfate; and

(D) an organic additive;

wherein said tris(hydroxymethyl)aminomethane – borate buffer has a pH above 8.0 and below 8.3, and wherein said aqueous gel medium facilitates the electrophoretic separation of said analytes by comprising a molecular sieve.

Claim 20. The capillary electrophoresis system of claim 19, wherein said gel medium additionally contains one or more reagent(s) that function to help keep protein analytes in a reduced form.

Claim 21. The capillary electrophoresis system of claim 20, wherein said one or more reagent(s) include a reducing reagent.

Claim 22. The capillary electrophoresis system of claim 21, wherein said reducing reagent is selected from the group consisting of 2-mercaptoethanol, dithiothreitol (DTT), dithioerythreitol (DTE), and tris(2-carboxyethyl)phosphine.

Claim 23. The capillary electrophoresis system of claim 22, wherein said reducing reagent is dithiothreitol (DTT).

Claim 24. The capillary electrophoresis system of claim 20, wherein said one or more reagent(s) include a metal ion chelator.

Claim 25. The capillary electrophoresis system of claim 24, wherein said reducing reagent is ethylenediaminetetraacetic acid (EDTA).

Claim 26. The capillary electrophoresis system of claim 19, wherein said non-crosslinked hydrophilic polymer is selected from the group consisting of: dextran, polyacrylamide, cellulose derivatives and polyethylene oxide.

Claim 27. The capillary electrophoresis system of claim 26, wherein said non-crosslinked hydrophilic polymer is dextran.

Claim 28. The capillary electrophoresis system of claim 27, wherein said dextran has a molecular weight of 2,000 kilodaltons and possesses a non-cross-linked structure composed of approximately 95% alpha-D-(1-6) linkages.

Claim 29. The capillary electrophoresis system of claim 19, wherein said organic additive is an alcohol.

Claim 30. The capillary electrophoresis system of claim 29, wherein said alcohol is present at a concentration of from about 0.1% to about 30% (V/V).

Claim 31. The capillary electrophoresis system of claim 30, wherein said alcohol is selected from the group consisting of: methanol, ethanol, ethylene glycol and glycerol.

Claim 32. The capillary electrophoresis system of claim 31, wherein said alcohol is glycerol.

Claim 33. The capillary electrophoresis system of claim 32, wherein said glycerol is present at a concentration of from about 0.1% to about 30% (V/V).

Claim 34. The capillary electrophoresis system of claim 19, wherein said Tris-borate buffer is present at a concentration of from about 0.1M to about 1.0M.

Claim 35. The capillary electrophoresis system of claim 19, wherein said aqueous gel medium has a pH of 8.1 ± 0.1.

Claim 36. The capillary electrophoresis system of claim 19, wherein said analytes include analytes selected from the group consisting of: proteins, polypeptides, peptides, polysaccharides, and nucleic acid molecules.